

Amendments to the Specification:

In the Substitute Specification, please amend paragraph [0004], as follows:

For the design of blade cascades of this type, particularly at high temperatures of the action fluid flowing through the flow duct, it is necessary to ensure flow optimization, but, in particular, also the strength of, for example, the blade and blade fastening. There is particular significance, in this context, in the fact that the strength characteristic values of the high-temperature materials used decrease markedly at high temperatures. However, the aim is, in general, a higher process temperature, since this results in a rise in the thermodynamic efficiency of the turbomachine. This influence of the high operating temperature on the strength characteristic values of the materials used applies likewise to the rotors of thermal turbomachines.

In the Substitute Specification, please delete paragraph [0005].

In the Substitute Specification, please amend paragraph [0008], as follows:

This effect is also designated as the obstruction effect. Furthermore, because of the finite number of blades, there cannot be an optimum homogeneous deflection of the action fluid. In addition, blade cascades possess a flow resistance, that is to say boundary layers are formed on the blades, which may lead to secondary losses in the following blade cascades ~~and, for example in the case of compressors, in conjunction with an additional faulty approach flow, may, in an extreme instance, even cause an obstruction.~~ As already discussed further above, because of the use of high-grade high-temperature materials, blades for use in high-temperature applications are very costly and of limited strength on account of the increased material and manufacturing costs. Owing to the strength aspects of the high centrifugal force loads on moving blades, the height of the blades, that is to say the maximum blade leaf length, is limited. In the event of a failure of a blade, for example as a result of a breakaway from the rotor due to an overshooting of the maximum permissible centrifugal force load, considerable consequential damage may occur in the turbomachine. Thus, for example, in an axial turbomachine, in particular, the following blade cascades arranged in the flow direction of the action fluid may be destroyed. A further disadvantage of the known bladings is attributable to the gap losses which always occur. Gap mass flows of action fluid, which pass through between a blade and component located opposite

the blade so as to form a gap, result in an efficiency loss (gap loss). In order to keep the losses as low as possible, the gap mass flow must be limited by means of narrow clearances which are highly complicated to ensure in manufacturing processes. In this context, a minimum clearance should not be undershot for reasons of the operating reliability of the turbomachine. Gap losses of this kind were investigated, for example, in the dissertation of Helmut Pollak “Experimentelle Untersuchungen der Strömungsvorgänge in axialen Kaltluftturbine unter besonderer Berücksichtigung der Radialspaltströme und ihre Einflussparameter” [“Experimental investigations of the flow processes in axial cold-air turbines, with particular attention to the radial gap flows and their influencing parameters”], Rheinisch/Westfälische Hochschule, Aachen.

In the Substitute Specification, please delete paragraph [0009].